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09/581,602	08/18/2000	Manabu Oumi	S004-4005(PC	9810

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ADAMS & WILKS  
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NEW YORK, NY 10004

EXAMINER
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PSITOS, ARISTOTELIS M

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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10/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/581,602	<b>Applicant(s)</b> OUMI ET AL.	
	<b>Examiner</b> Aristotelis M. Psitos	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 36-39, 41-43, 45-47 and 49-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-39, 41-43, 45-47, 49-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

Applicants' response of 7/18/07 has been considered with the following results.

***Drawings***

The newly submitted figures 26 and 27 have been received; however, the drawings are objected to under 37 CFR 1.83(a) because they fail to show either the groove or the optical different refractive indexes as described in the specification. Although these drawings have particular indicia indicated thereon, i.e., 1500 as in fig. 26 there is no clear indication as to what this refers to. The examiner strongly recommends labeling such indicia in both figures. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Response to Arguments***

Applicant's arguments filed 7/18/07 have been fully considered but they are not persuasive.

As now amended, all the independent claims call for a plurality of linear marks. As best depicted/interpreted/understood such are depicted in figures 22-24. However, as now recited, these linear marks overlap each other. This is interpreted to describe an overlap in different directions – again as depicted in the above figures. Nevertheless, dependent claims:

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- a) 53,57,61 and 65 require the marks to be projections,
- b) 54,58,62,66 require the marks to be grooves,
- c) 55,59,63,67 require the marks to have different optical properties,
- and
- d) 56,60,64,68 require the different optical property to be different refractive indexes.

While the above noted figures have been interpreted as projections, i.e., group a above, NONE of the figures depict the remaining claimed limitations of groups b,c,d. There is NO PLURALITY OF GROOVES, OPTICAL PROPERTIES, REFRACTIVE INDEXES in different directions as now required.

### ***Specification***

The amended title of the invention has been entered. Applicants' cooperation is greatly appreciated.

### **Errata**

The examiner makes the following grouping of the claims:

Group A) Claims 36-39 & 53-56: near field reproducing apparatus, designating "an information field unit", plurality of linear marks, overlap relationship to one another.

Group B) Claims 41-43, & 57-60: near field reproducing apparatus and method, designating "an information unit", "a plurality of linear marks", overlap relationship to one another in different directions.

Group C) Claims 45-47,49-51, & 61-68 : near field reproducing method and apparatus, designating "a plurality of information unit fields" each having "a plurality of linear marks" in these fields, overlap relationship to one another in different directions.

Furthermore: the following additional sub-groups are:

- a) claims 53-56, 57-60, 61-64 and 65-68 parallel each other wherein:

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- i) 53,57,61,65 define the mark as a projection,
- ii) 54,58,62 and 66 define the mark as a groove,
- iii) 55,59,63, and 67 define the mark as having different optical properties,
- iv) 56, 60, 64 and 68 define the optical property as refractive index.

#### ***Claim Objections***

Claims:

a) 39, 43, 47,51 fail to further limit the parent claim. That is defining what the mark represents does not further limit the **apparatus**.

b) those claims as identified above as sub-group a i) define the mark as a projection fail to further define the apparatus.

c) those claims as identified above as sub-group a ii) define the mark as a groove fail to further define the apparatus.

d) those claims as identified above as sub-group a iii) and a iv) define the mark as having different optical properties/refractive index. The examiner recommends first defining the record medium as having different optical properties.

#### ***Response to Arguments***

Applicant's arguments filed 7/18/07 have been fully considered but they are not persuasive.

The apparatus as discloses comprises of a plurality of elements (hardware). One component of the apparatus is a *record medium*. However, while the above noted claims define further medium limitations, the record medium is a product not an apparatus. Hence the examiner maintains the above objections.

#### **Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 36-39, 57,61 and 65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As now presented, claim 36 is drawn to an information reproducing apparatus comprising:

" ....  
a medium having an information unit field and a plurality of linear marks disposed in the  
information unit field in overlapping relation to one another; ...".

However, no support for such is readily apparent in the specification as originally filed. If this language is attempting to define the linear marks in figures 22-24, however, as described herein, the linear marks have different directions from one another. Hence there is no disclosure of the above-recited subject (e.g. without different directions).

With respect to claims 39, 43, 47 and 51, the only disclosure with respect to tracking marks is that with respect to figure 7; however, the plurality of overlapping linear data marks with or without any directional divergence is NOT found.

Remaining dependent claims fall with their respective parent claim.

As far as the claims are interpreted the following positions are taken thereto.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 36-38,53,54-56 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Guerra ('348)/('507) either further considered with JP 10-112075 and Bricot et al and all further considered with Maeda et al.

The following analysis is made:

Claim 36

Guerra

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An information reproducing apparatus:	("348)/ ('507)
	Title/abstract
a light source for generating a linearly polarized light:	in fig. 13, element 160 & 161- see below
a medium having an information unit field and a plurality of linear marks disposed in the information unit field in overlapping relation to one another;	medium is present, see description of figures 21-23 see Maeda et al & below
an optical head disposed between the light source and the medium, the optical head having a fine aperture;	element 100 -see below
polarized light control means for controlling the linearly polarized light generated by the light source to pass through the fine aperture of the optical head to generate near-field light having a preselected polarization direction and to irradiate the linear marks in the information unit field of the medium with the near-field light so that the preselected polarization direction of the near-field light is orthogonal to a longitudinal axis of the linear mark; and	see description of element 161 in fig. 13 and below
a detector for detecting light scattered by the linear mark irradiated with the near-field light.	detector elements 140 in fig. 13.

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In the above analysis either of the Guerra systems disclose a near-field system. The system has the basic elements required for reproduction, a light source, appropriate phase controlling element, medium and appropriate detector element. Applicants' attention is drawn to the description of figure 13 for instance, starting at col. 7 line 20 for instance.

Since the system is described as "near-field" the examiner interprets the optical head as having a fine aperture.

With respect to the controlling element/polarized light control means, element 161 is so interpreted as providing the appropriate orientation to the polarization of the light beam used in the system – see the above noted passages. With respect to the claimed axial orientation, such axial orientation is interpreted to element 234 in figures 21 and 23.

With respect to the limitations of claims 37 and 38 such elements are considered inherently present, else no information can be so detected/reproduced.

With respect to claim 39, the mark in either Guerra system is interpreted as a "data mark". There are a plurality of these in the record medium. There is no clear depiction that the data marks are in an "overlapping relation to one another".

As noted in Maeda et al, the ability to provide for a format in which the data marks overlap each other is taught with respect to figure 2 – see the description thereof. This provides for the ability to increase the recording density.

It would have been obvious to modify the base system of either Guerra system with the above noted teaching, motivation is as discussed in Maeda et al, to increase the recording density.

With respect to claim 53, see the additional teaching from Guerra ('940) starting at col. 14, line 15. Either projections/bumps or pits for the recording mark is a function of the record medium material and hence merely a selection of obvious equivalents.

With respect to claim 54, the mark is depicted as a groove – see fig. 15.

With respect to claims 55-56, the mark has such properties – see figs. 21 & 23 and their description.

If applicants' can convince the examiner that the above Guerra systems do not have



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a) the linear polarized light – then the examiner relies upon the JP 10-112075 document – see the MAT (machine assisted translation thereof) with respect to element 27 as described in paragraphs 38-45 thereof.

It would have been obvious to modify the base system of either Guerra with the above teaching from JP 10-112075, motivation is to select the appropriate polarization orientation for the record medium as discussed in Guerra with respect to appropriate materials for the recording marks.

b) If applicants can convince the examiner that either Guerra lacks the appropriate polarized light controller element, the examiner relies upon the Bricot et al reference, see the description of appropriate elements in order to control the polarization orientation of the final beam as it strikes the record medium – see starting at col. 4 line 66, either the quarter or half wave plate which can be substituted by a polarizer. The Bricot et al reference, teaches in this environment the polarization rotation.

It would have been obvious to modify the base system of either Guerra/JP 10-112075 with the above noted teachings from Bricot et al; motivation is to provide for the desired polarization orientation as desired.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

With respect to the polarization arguments, see either the disclosure in either Guerra system as it describes the data marks 51,52, and 53 with respect to figure 8 – see for instance starting at col. 6 line 19 till line 48, or the secondary references to either JP 10-112075 or Bricot et al.

2. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 36 as stated in paragraph 1 above, and further in view of Guerra ('940) and further with either Lemelson or Morisawa et al and all further considered with the "buried servo concept" known in the recording arts..

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Guerra ('940) discusses with respect to figure 25 for instance the ability of having a particular sync mark – 211.

It would have been obvious to modify the base system of Guerra with the additional teaching of having a sync mark for the inherent capability thereof.

Furthermore, Lemelson – see figure 7, where the linear mark(s) are 78', 78 or 79, and the information unit field is each track 77. Hence only one linear mark is so disposed.

Alternatively, Morisawa et al – see the single mark(s) along the left hand edge of figure 5, wherein the unit image field is that area of the record associated therewith.

The capability/concept of having only a single linear mark is well known in the recording arts, i.e., commonly known as alignment marks, synch marks, edge marks, and are disposed with a unit information field.

The ability of having these servo/tracking marks "buried" is well known in the recording arts and Official notice is taken thereof.

It would have been obvious to modify the above with this additional teaching so as to provide for an overlap relationship between the linear data marks and the tracking marks, motivation is as known from the "buried" servo concept, increasing recording density.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 41-42, 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerra ('348)/('507) either further considered with EP 0552887 and JP 10-112075 and Bricot et al, and further considered with Maeda et al.

The combination of either Guerra with the JP 10-112075 and Bricot et al and the Maeda et al references is relied upon for the reasons stated above in paragraph 1.

With respect to dependent claims 57-60 see the above analysis with respect to claims 53-56.

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Claim 41 differs from independent claim 36 in that it designates/defines the linear marks as extending in different directions.

The EP 0552887– which in figure 2 shows a plurality of linear marks in the data area/field, i.e., the data region marks, note the different directional orientation of these marks.

It would have been obvious to modify the references as indicated above in paragraph 1 with this additional teaching. Whether the linear marks extend in different directions from one another or not is considered to be obvious variation as noted/taught in the EP document (orientation direction), especially because the use/ability of providing a plurality of such directional marks is known in this environment. Use of such directional variation provides for identification of more information.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

4. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 41 as stated in paragraph 3 above, and further in view of Guerra ('940) and further with Morisawa et al and all further considered with the "buried servo" concept known in the recording arts.

Guerra ('940) discusses with respect to figure 25 for instance the ability of having a particular sync mark – 211, which is interpreted as the linear tracking mark(s).

It would have been obvious to modify the base system of Guerra with the additional teaching of having a sync mark for the inherent capability thereof.

Alternatively, Morisawa et al – see the single mark(s) along the left hand edge of figure 5, wherein the unit image field is that area of the record associated therewith.

The capability/concept of having a plurality of linear mark is well known in the recording arts, i.e., commonly known as alignment marks, synch marks, edge marks, and are disposed with a unit information field – see above to either Guerra, ('940)/Morisawa et al.

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The capability/concept of having only a single linear mark is well known in the recording arts, i.e., commonly known as alignment marks, synch marks, edge marks, and are disposed with a unit information field.

The ability of having these servo/tracking marks "buried" is well known in the recording arts and Official notice is taken thereof.

It would have been obvious to modify the above with this additional teaching so as to provide for an overlap relationship between the linear data marks and the tracking marks, motivation is as known from the "buried" servo concept, increasing recording density.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

5. Claims 45-46, 61-64, 49-50, 65-68 are rejected under 35 U.S.C. 103(a) as obvious over Guerra ('348)/('507) either further considered with JP 10-112075 and Bricot et al and all considered with Maeda et al and EP 0552887.

The references to Guerra, JP 10-112075, Bricot et al, Maeda et al and EP 0552887 are relied upon for the reasons stated above in paragraph 3.

Claim 45 differs from claim 41 (and hence 36) in that it designates/recites a plurality of information unit fields each having a plurality of linear marks therein.

Either Guerra reference ('348)/('507) depicts such – see either figure 1 marks 21, 23, or alternatively figures 14, 16, 17, 20 or 22.

If applicants can convince the examiner that such are not a plurality of unit information fields, then the examiner further relies upon JP 10-112075 as teaching such – such an interpretation is keeping in line with applicants interpretation in his remarks on page 16 of the above dated response.

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It would have been obvious to modify the base system of either Guerra with such an additional teaching, motivation is to provide for a plurality of information fields indicative of information. This is considered merely a difference in the amount of information units provided on a record medium.

The analysis of the method claims is similar, i.e., the method limitations are met when the above system/systems operate.

The dependent claims 46,50,61-64 and 65-68 fall for the reasons stated above with respect to their parallel dependent claims already discussed/analyzed above.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

6. Claims 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 45 and 49 as stated in paragraph 5 above, and further in view of Guerra ('940) and further with Morisawa et al and the "buried servo" concept known in the recording arts.

Guerra ('940) discusses with respect to figure 25 for instance the ability of having a particular sync mark – 211, which is interpreted as the linear tracking mark(s).

It would have been obvious to modify the base system of Guerra with the additional teaching of having at least a sync mark for the inherent capability thereof.

Alternatively, Morisawa et al – see the single mark(s) along the left hand edge of figure 5, wherein the unit image field is that area of the record associated therewith.

The capability/concept of having a plurality of linear mark is well known in the recording arts, i.e., commonly known as alignment marks, synch marks, edge marks, and are disposed with a unit information field – see above to either Guerra, ('940)/Morisawa et al.

The ability of having these servo/tracking marks "buried" is well known in the recording arts and Official notice is taken thereof.

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It would have been obvious to modify the above with this additional teaching so as to provide for an overlap relationship between the linear data marks and the tracking marks, motivation is as known from the "buried" servo concept, increasing recording density.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

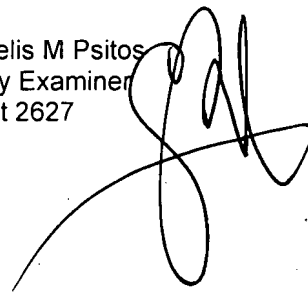
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-F: 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aristotelis M Psitos  
Primary Examiner  
Art Unit 2627

A handwritten signature in black ink, appearing to be 'A. Psitos', written over the printed name and title.

AMP